REMARKS

This Amendment is filed in response to the Final Office Action mailed on February 7, 2006. All objections and rejections are respectfully traversed.

Claims 6-9, 11-17, 19-20, and 23-50 are currently pending.

No new claims are added.

35 U.S.C. §102 Rejection

At paragraphs 3-4 of the Office Action, claims 6-8 and 27-50 were rejected under 35 U.S.C. §102 as being anticipated by Brunelle et al., US Patent No, 6,654,902, issued on Nov. 25, 2003, hereinafter Brunelle.

The present invention, as set forth in representative claim 6, comprises in part:

> 6. A method of claiming ownership of a disk by a network device in a network storage system comprising the steps of:
> *writing ownership information to a predetermined area of the disk*; and
> setting a small computer system interface persistent reservation tag to a state of network device ownership

By way of background, Brunelle discloses a way of using standard small computer system interface (SCSI) persistent reservations with I/O barriers. The American National Standards Institute (ANSI) has standardized a number of SCSI Persistent Reservation commands, such as *Persistent Reserve Out*. *See* col. 1, lines 28-41. Brunelle describes issuing two of these commands to assign ownership to storage devices. *See* col. 5, lines 60-67. The first *Persistent Reserve Out* command includes a key describing a

particular node owning the device. *See* col. 6, lines 38-48. The second *Persistent Reserve Out* command includes a parameter specifying an access type, such as "write exclusive read only." *See* col. 5, lines 65-67 and col. 6, lines 48-54.

Applicant respectfully urges that Brunelle is silent concerning Applicant's claimed *"writing ownership information to a predetermined area of the disk."* In further detail, Applicant's claimed invention uses a two-part ownership identification method. The first part of this ownership method is writing of ownership information to a predetermined area of each disk. Within the system, this ownership information acts as the definitive ownership attribute. This predetermined area of the disk can be any known and constant location on each of the disks. The second part of the ownership method is setting of a SCSI persistent reservation to allow only the disk owner to write to the disk. This use of a SCSI persistent reservation allows other filers to read the ownership information from the disks. In sharp contrast, Brunelle only describes using two persistent reserve commands to reserve the device for "write exclusive read only." Brunelle is silent in regard to *writing ownership information to a predetermined area of the disk.*

In addition, Brunelle only describes *American National Standard for Information Standards* (ANSI) *SCSI-3* standard commands. (Cited in the IDS filed on March 8, 2002). In particular, the persistent reserve command is defined as a command "used to obtain information about persistent reservation keys that are active within a device server." (Pg. 50, § 7.12). Brunelle, uses the persistent reserve in command to read the tags and fill a table identifying the tags. (Col. 6, line 55 to Col. 7, line 16). Also, the persistent reserve out command is defined as a command "used to reserve a logical unit or an extent within a logical unit for the exclusive or shared use of a particular initiator." (pg. 58, §7.13). Brunelle uses two persistent reserve out commands to reserve a device for write exclusive

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read only. (Col. 6, lines 37-54). Furthermore, Brunelle does not describe how the reservation tags are stored within the storage device. The ANSI standard describes the storage of persistent reservation tags in nonvolatile memory, which is stated at pg. 51, §7.12.1, and states:

> "7.12.1 Persistent Reserve In Service Actions
> Service action that require access to the persistent reservation and registration information may require the enabling of a nonvolatile memory within the logical unit. If the nonvolatile memory is not ready, the device server shall return CHECK CONDITION status."

As Brunelle only describes the ANSI SCSI standard, it therefore uses non-volatile memory as used in the standard to store reservation tags. There is no disclosure of writing ownership information to a predetermined area of the disk as in Applicant's claim *"writing ownership information to a predetermined area of the disk."* Additionally, Brunelle only describes using reservation tags and not Applicant's additional part of *writing ownership information to a predetermined area of the disk.*

The examiner states that Brunelle clearly teaches writing ownership information to a predetermined area of the disk. Specifically, the Examiner states Brunelle shows writing ownership information to a predetermined area of the disk by "the read key commands requests that the shared device manager return a list of the cluster nodes that have previously registered with storage device by returning a list of registration keys stored in the storage device" (See col. 5, lines 27-37) and "the persistent reserved table is stored in the storage device. The persistent reserve table includes a reservation entry for each reservation." (See col. 7, lines 8-16).

Applicant respectfully notes that Brunelle only describes a reserve table located within the storage device for storing a list of all reservation keys stored on the storage

device. In contrast, Applicant's invention writes ownership into the disk where the ownership information to a predetermined area of that disk. Applicant's table of ownership information is determined by reading the predetermined area of the disk. Brunelle does not describe storing the reservations in a predetermined area of the storage device.

Accordingly, the Applicant respectfully urges that Brunelle is legally insufficient to anticipate the present claims under 35 U.S.C. §102 because of the absence of the Applicant's claimed novel *writing ownership information to a predetermined area of the disk*

35 U.S.C. §103 Rejection

At paragraphs 5-6 of the Office Action, claims 9-20 and 23-24 were rejected under 35 U.S.C. §103 as being unpatentable over Brunelle, in view of Carlson et al., US Patent Application Publication 2003/0093501, hereinafter Carlson.

The present invention, as set forth in representative claim 9, comprises in part:

9. A network storage system comprising:
a plurality of network devices;
one or more switches, each network device connected to at least
one of the one or more switch; and
a plurality of disks having a first ownership attribute written to a predetermined area of the disk and a second ownership attribute in the
form of a small computer system interface persistent reservation tag, each
disk connected to at least one of the plurality of switches.

By way of background, Carlson discloses a Storage Area Network (SAN) where storage devices are interconnected by switches to form a fabric. *See* paragraph 0039.

The Applicant respectfully urges that both Brunelle and Carlson are silent concerning the Applicant's claimed *a first ownership attribute written to a predetermined area of the disk*. In further detail, the first ownership attribute is written to any known and constant location on each of the disks. As stated above Brunelle does not teach or suggest *a first ownership attribute written to a predetermined area of the disk*. Brunelle only describes using two persistent reserve commands to reserve the device for "write exclusive read only". There is no disclosure of writing ownership to a known and constant (predetermined) location on each of the disk. In other words, Applicant's invention uses an assigned sector on each disk for storing ownership information. Furthermore, Carlson, similarly lacks any suggestion of this feature as it merely describes a storage network architecture, and lacks any mention of ownership.

Accordingly, the Applicant respectfully urges that the combination of Brunelle and Carlson is legally insufficient to make obvious the present claims under 35 U.S.C. §103 because of the absence of the Applicant's claimed novel "*a first ownership attribute written to a predetermined area of the disk.*"

At paragraph 7 of the Office Action, claims 25-26 were rejected under 35 U.S.C. §103 as being unpatentable over Brunelle, in view of Carlson, and in further view of Jaskiewicz et al., US Patent Application Publication 2003/0061491, hereinafter Jaskiewicz.

Applicant respectfully notes that claims 25-26 are dependent claims that depend from independent claims which are believed to be in condition for allowance. Accordingly, claims 25-26 are believed to be in condition for allowance.

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In the event that the Examiner deems personal contact desirable in the disposition of this case, the Examiner is encouraged to call the undersigned attorney at (617) 951-3067.
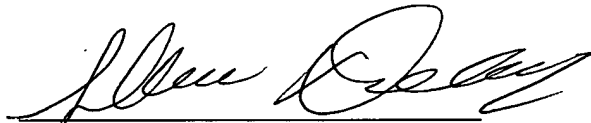
All independent claims are believed to be in condition for allowance.

All dependent claims are believed to be dependent from allowable independent claims.

The Applicant respectfully solicits favorable action.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,

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